



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/776,531

02/12/2004

Shrjie Tzeng

0063-127001

4147

32294

7590

03/17/2010

SQUIRE, SANDERS & DEMPSEY L.L.P.
8000 TOWERS CRESCENT DRIVE
14TH FLOOR
VIENNA, VA 22182-6212

EXAMINER

KRISHNAN, VIVEK V

ART UNIT

PAPER NUMBER

2445

NOTIFICATION DATE

DELIVERY MODE

03/17/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

IPGENERALTYC@SSD.COM
SWHITNEY@SSD.COM

Office Action Summary	Application No. 10/776,531	Applicant(s) TZENG, SHRJIE	
	Examiner Vivek Krishnan	Art Unit 2445	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 November 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,6,8-10,16,17,19,20,24-28 and 30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,6,8-10,16,17,19,20,24-28 and 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is responsive to the Amendment/Arguments filed on November 26, 2009. Claims 2-5, 7, 11-15, 18, 21, 22, 23, and 29 have been cancelled. Claims 1, 6, 8-10, 24, 26, and 28 have been amended. Claim 30 has been added. Claims 1, 6, 8-10, 16, 17, 19, 20, 24-28 and 30 are pending.

Response to Arguments

1. Applicant's arguments with respect to Claim Rejections under 35 U.S.C. 112, first paragraph have been fully considered but they are not persuasive.

a. Applicant argues that a definition of "forwarding normally" as being equivalent to forwarding the frame from the first network device to a network device of the first side to which the frame is destined is present in Figures 2 and 4 and the associated description.

Examiner respectfully disagrees. While Figure 2 generally illustrates the movement of frames through the assembly of network devices and Figure 4 generally sets forth the step of forwarding normally, the applicant's specification never defines forwarding normally in the manner recited in the claims. Hence Applicant's arguments are not persuasive.

2. Applicant's arguments with respect to Claim Rejections under 35 U.S.C. 112, second paragraph have been fully considered but they are not persuasive.

b. Applicant argues that a frame received at a first network device on the first side may simultaneously and not redundantly be destined for another device of the first side.

Art Unit: 2445

While Examiner agrees that this may be the case, this is unclear from the current recitation of the claims. Examiner suggests that Applicant amend the claims to indicate a next or subsequent destination or hop to a device of the first side, in order to make the claims clear in this regard.

3. Applicant's arguments with respect to Claim Rejections under 35 U.S.C. 101 have been fully considered and are persuasive. The rejections of Claims 1, 16, 17, 19, and 20 have been withdrawn.

4. Applicant's arguments with respect to Claim Rejections under 35 U.S.C. 102(b) have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1, 6, 8-10, 16, 17, 19, 20, 24-28 and 30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Art Unit: 2445

Independent Claims 1, 6, and 24 recite determining whether the frame is destined for a network device of the first trunk group or a second network device of the second trunk group and furthermore, forwarding the frame from the first network device to a network device of the first side to which the frame is destined if the frame is not destined for one of the network devices of the second trunk group. While Applicant's originally filed disclosure provides support for determining whether a frame is destined for a member of the Gigabit trunking group (or a second network device of the second trunk group), Applicant's disclosure *fails* to provide support for making the determination of whether the frame is destined for a network device of the first trunk group and furthermore forwarding the frame from the first network device to a network device of the first side to which the frame is destined if the frame is not destined for one of the network devices of the second trunk group. Applicant's disclosure merely states that the frame is forwarded "normally" if the frame is not destined for a member of the Gigabit trunking group, however this step does not provide support for the claimed limitations.

Claims 7-10, 16-23, and 25-29 fail to cure the deficiencies of Claims 1, 6, and 24.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 1, 6, 8-10, 16, 17, 19, 20, 24-28 and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Independent Claims 1, 6, and 24 recite receiving a frame at a first network device that is on a first side and a member of the first trunk group and determining whether the frame is

Art Unit: 2445

destined for a network device of the first trunk group or a second network device of the second trunk group. This recitation is unclear and appears redundant since the frame has been received at a (first) network device of the first trunk group, hence the determination would always indicate that the frame is destined for a network device of the first trunk group.

Claims 7-10, 16-23, and 25-29 fail to cure the deficiencies of Claims 1, 6, and 24.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1, 6, 8-10, 16, 17, 19, 20, 24-28, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0027908 A1 to Kalkunte et al. (hereinafter "Kalkunte") and U.S. Patent Application Publication No. U.S. Patent Application Publication No. 2003/0016624 to Bare (hereinafter "Bare").

11. As to Claim 1, Kalkunte discloses a method of handling frames in a network device, said method comprising:

receiving a frame at a first network device of an assembly of network devices, divided into a first trunk group on a first side and a second trunk group on a second side, wherein the assembly includes a plurality of high-speed links connecting devices on the first side to

Art Unit: 2445

corresponding devices on the second side, and wherein the first network device has a first high-speed port connected to a first high-speed link of the plurality of high-speed links and is on the first side and a member of the first trunk group (Kalkunte; paragraph 11, and Figure 1; receiving a frame at a network switch fabric, with a system of devices divided into a first side including the switch fabric and ingress network switches and a second side including the egress network switches and the destination devices that are accessible via trunked ports);

determining, using the first network device, whether the frame is destined for a network device of the first trunk group or a second network device of the second trunk group trunk (Kalkunte; paragraph 11, and Figure 1; examining the received frame to determine whether the frame is belongs to a specific trunk group);

if the frame is destined for the second network device, determining a path for forwarding the frame to the second side, the path being determined based on achieving [a shortest path] for forwarding the frame to the second network device and including the first high-speed port of the first network device (Kalkunte; paragraphs 11 and 37, and Figure 1; a path is determined for forwarding the frame to a destination port that is local to the network device if the frame is destined for a member of the specific trunk group and the destination device identifier corresponds to a network device on the second side, of devices accessible via trunked ports); and

if the frame is not destined for one of the network devices of the second trunk group side, forwarding the frame from the first network device to a network device of the first side to which the frame is destined (Kalkunte; paragraph 11; if the frame does not correspond to a network device of the second side, i.e. accessible via trunked ports, an alternative destination port for the frame is determined and forwarded based on the egress port bit map).

Kalkunte does not explicitly disclose, however Bare discloses determining the path based on achieving a minimized forwarding latency (Bare; paragraph 214; determining a path for minimizing latency costs).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify determining a path in a fabric switch, as disclosed by Kalkunte, to include minimizing forwarding latency, as disclosed by Bare, in order to incorporate more efficient methods of path determination known in the art.

12. As to Claim 16, Kalkunte discloses the method of claim 1. Kalkunte further discloses wherein the receiving comprises receiving the frame at the first network device, and wherein the plurality of links include a plurality of high speed links connecting a Gigabit port on a device of the first side to a Gigabit port on a device of the second side (Kalkunte; Figure 1; Gigabit port).

13. As to Claim 17, Kalkunte discloses the method of claim 1. Kalkunte further discloses wherein the determining comprises determining, based on a source chip identifier in a header of the frame, whether the frame is destined for a network device of the first trunk group or the second trunk group (Kalkunte; paragraph 12-13; destination address).

14. As to Claim 19, Kalkunte discloses the method of claim 1. Kalkunte further discloses wherein if the frame is destined for the second network device, the forwarding comprises, determining that the first high-speed link is local to the first network device; and forwarding the

Art Unit: 2445

frame from the first network device to the second network device via the first high-speed link (Kalkunte; paragraph 11, and Figure 1).

15. As to Claim 20, Kalkunte discloses the method of claim 1. Kalkunte further discloses wherein if the frame is not destined for a network device of the second side, the forwarding comprises, forwarding the frame to the network device of the first side to which the frame is destined via one or more expansion links connecting the first device to the network device of the first side to which the frame is destined (Kalkunte; paragraph 11, and Figure 1).

16. Claims 6, 8-10, and 24-27 have similar limitations to Claims 1 and 16-23. Therefore they are rejected under Kalkunte and Bare for the same reasons as set forth in the rejections of Claims 1 and 16-23.

17. As to Claim 28, Kalkunte discloses the network device of claim 24. Kalkunte further discloses wherein the network device does not rely on a hash result to determine the path (Kalkunte; paragraph 50; full redundancy method to determine path).

18. As to Claim 30, Kalkunte discloses the method of claim 1. Kalkunte further discloses determining the path relative to an alternate path, the alternate path based on a hash algorithm used to select a high-speed link of the plurality of links (Kalkunte; paragraph 37 and 50; hash algorithm).

Art Unit: 2445

Conclusion

19. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vivek Krishnan whose telephone number is (571) 270-5009. The examiner can normally be reached on Monday through Friday from 9:00 AM to 5:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivek Srivastava can be reached on (571) 272-7304. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2445

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/V. K./

Examiner, Art Unit 2445

/VIVEK SRIVASTAVA/

Supervisory Patent Examiner, Art Unit 2445